

PATENT COOPERATION TREATY

Plougmann & Vingtoft

8 DEC. 2004

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

OCM/SPK

To:

PLOUGHMANN & VINGTOFT AS
Sundkrogsgade 9
P.O. Box 831
DK-2100 Copenhagen
DANEMARK

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Sent by fax on 08.12.04

Date of mailing
(day/month/year)

06.12.2004

Applicant's or agent's file reference
32099 PC 01

IMPORTANT NOTIFICATION

International application No.
PCT/DK 03/00488

International filing date (day/month/year)
11.07.2003

Priority date (day/month/year)
11.07.2002

Applicant
GLUD & MARSTRAND AS

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Sportellini, E

Tel. +49 89 2399-7647



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

8 DEC. 2004

| | | |
|---|---|--|
| Applicant's or agent's file reference 32099 PC 01 | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA416) | |
| International application No. PCT/DK 03/00488 | International filing date (day/month/year) 11.07.2003 | Priority date (day/month/year) 11.07.2002 |
| International Patent Classification (IPC) or both national classification and IPC G11B7/24 | | |
| Applicant GLUD & MARSTRAND AS | | |



- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 7 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

| | |
|---|---|
| Date of submission of the demand 06.02.2004 | Date of completion of this report 06.12.2004 |
| Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized Officer Kyranos, E Telephone No. +49 89 2399-2604  |

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/DK 03/00488**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-35 as originally filed

Claims, Numbers

1-109 as originally filed

Drawings, Sheets

1/9-9/9 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
4. The amendments have resulted in the cancellation of:
- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/DK 03/00488

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 15-98

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos. 15-98

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees, the applicant has:

☐ restricted the claims.

☐ paid additional fees.

☐ paid additional fees under protest.

☒ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

☐ complied with.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/DK 03/00488

☒ not complied with for the following reasons:

see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

☐ all parts.

☒ the parts relating to claims Nos. 1-5,7-8,11-12,13-14,99-107 .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|--------------------------------|
| Novelty (N) | Yes: Claims | 3,4,13,14,101,102,104,106,107 |
| | No: Claims | 1-2,5,7-8,11-12,99-100,103,105 |
| Inventive step (IS) | Yes: Claims | 3,4,13,14,101,102,104,106,107 |
| | No: Claims | 1-2,5,7-8,11-12,99-100,103,105 |
| Industrial applicability (IA) | Yes: Claims | 1-5,7-8,11-12,13-14,99-107 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:
D1:EP1132904
D2:US5869163
2. This Authority considers that there are 3 inventions covered by the claims indicated as follows:
 - I: Claims 1-5,7-8,11-12,13-14,99-107 directed to an optical storage medium comprising a compensating layer.
 - II: Claims 108-109 directed to the use of a rolling process, stamping process, thermal process, etching process, cutting process, moulding process, magnetic moulding process, extruding process or electrochemical process for forming an information surface into a substantially non-transparent material.
 - III: Claims 6, 7-14 directed to an optical storage medium comprising information in the form of a deep surface relief.

The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

It appears from the claims related to each invention that each set of claims is directed into solving a different problem by different means. Namely,

the first set of claims provides for reading an optical disc medium by different optical playback devices through the employment of a compensating layer on/in the optical disc medium.

The second set of claims provides for the use of processes for forming an information surface into a substantially non-transparent material.

The third set of claims provides for an optical storage medium comprising information in the form of deep surface relief. In other words, how to provide a nano-structure representing digital information on a substantially non-transparent

substrate.

It is therefor clear from the above that, as each invention relates to its own separate problem and its own separate solution, and as each invention has its own special technical features without correspondence to the special technical features of the other inventions, there is no common single inventive concept between the three sets of claims (inventions) to fulfill the requirements of Rule 13.1 and 13.2 PCT with regard to unity of invention.

3. Additionally, as no international search report has been established for claims 15-98, said claims have not been the subject of an international preliminary examination (Rule 66.1(e) PCT).
4. The prior art has been identified as document D1 (EP1132904 (Matsushita)) and discloses: an optical storage medium comprising a main substrate (fig. 1, item 11), an information surface (phase-change recording layer 14) and a compensating layer (optical compensation layer 15). The compensating layer is positioned between the information surface and the outer surface of the second substrate 18. As the features of claims 1,2,7,8,11,12,100,103, 105 are clearly disclosed in said prior art document, the said claims are not new in view of said document.
5. As with regard to the features defined in claim 99 mention is made of document D1 (US5869163) which clearly discloses the particular thickness of the optical storage medium.
Thus, the subject-matter of claim 99 is not new in view of D1.
6. From comparison between the disclosure of the prior art document D1 and the features defined in the claims of the first invention it can be seen that the features defined in claims 3,4,13,14,101,102,104 106, 107 make a contribution over this prior art (special technical features, Rule 13.2). Said features are related to the compensating layer changing a phase and/or amplitude of a propagating electromagnetic wavefront according to a first optical function so the optical medium can be read or recorded by a detector/emitter which is preset to read or record information through a medium which changes the phase and/or amplitude according to a different optical transfer function.
7. The features of the claims were not provided with reference signs placed in

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/DK 03/00488

parentheses (Rule 6.2(b) PCT).